Use Attainability Analysis

for

WBID 2212 Horrell Creek

Submitted by MEC Water Resources, Inc.

To Missouri Department of Natural Resources Water Protection Program

Date Received: October 22, 2007

Notes

Horrell Creek (WBID 2212) is a 1.5 long class C stream, which is located away a relatively long distance from any road crossing, which makes accessing the stream difficult. Our survey focused on the downstream two-third of Horrell Creek because that is where we got land owner access to the stream.

Weather Conditions

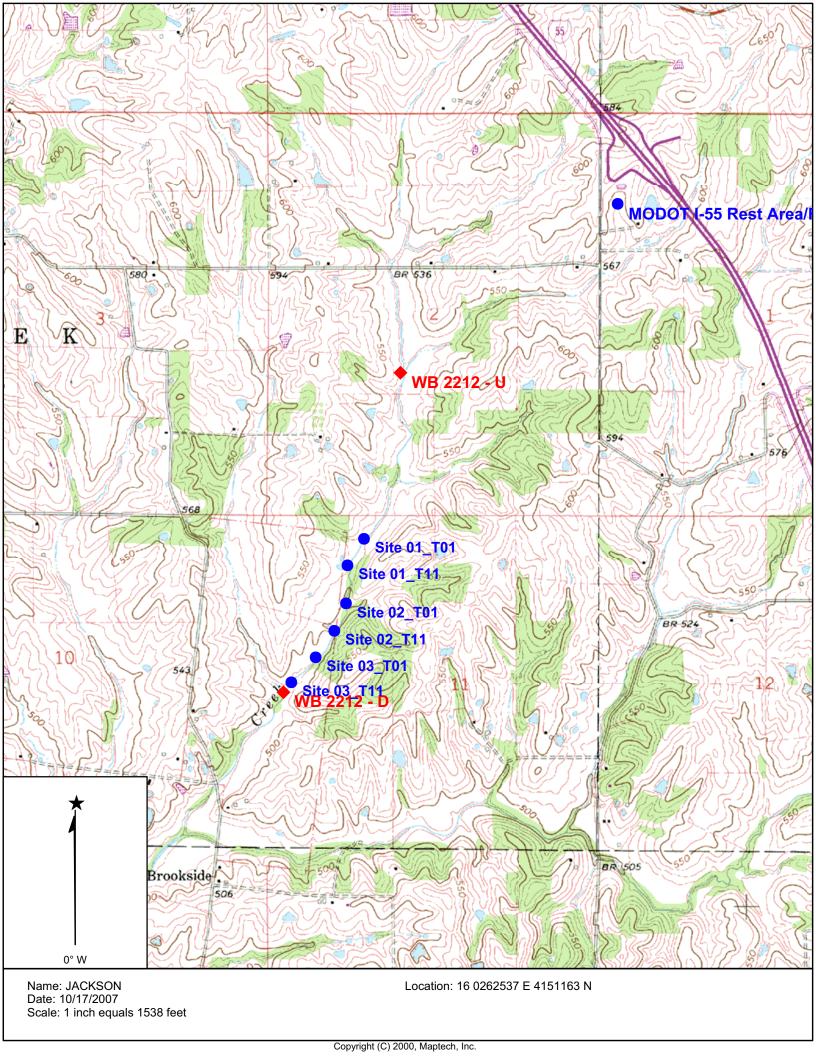
Weather conditions ten days pervious to stream assessment are listed in the tables below. The date(s) that the stream was assessed are shaded.

Data from the Midwest Regional Climate Center Jackson, Missouri - Station ID: 234226

Date	Precipitation (Inches)	Min. Temp (°F)	Max. Temp (°F).	Avg. Temp (°F)
08/18/2007	0.19	71	93	82
08/19/2007	0.00	71	93	82
08/20/2007	0.72	67	97	82
08/21/2007	0.00	67	96	82
08/22/2007	0.00	60	84	72
08/23/2007	0.00	60	84	72
08/24/2007	0.00	60	86	73
08/25/2007	0.00	61	87	74
08/26/2007	0.00	61	88	75
08/27/2007	0.00	65	91	78
08/28/2007	0.32	72	93	83

Data Sheet A - Water Body Identification

Water Body Name (from USGS 7.5' quad):	14	orrel Creek	
Missouri Water Body Identification (WBID)	Number:	2212	
8-digit HUC:		County: Cape Girardea	. 7
Upstream Legal Description (from Table H):	7	37 K) 17 F	
Downstream Legal Description(from Table H): S.	or 233, 32 NIZE	
Number of sites evaluated		0, 0, 10, 10	
List all sites numbers, listed consequently ups	tream to d	ownstream:	
Sites			
II. Subesegmentation (fill this section out only	,		<u> </u>
LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATO	R PROJECTIO	N, IN METERS)	
Upstream Coordinates: UTM: X Y		Downstream Coordinates: UTM X Y	
HORIZONTAL COLLECTION METHOD (Indicate the method used to c	determine the lo		
Global Positioning System (GPS) Static Mode	17 3/2 4 5 5 C	Interpolation	
		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing	经通额 经		
HORIZONTAL ACCURACY ESTIMATE GPS Data Quality		Interpolation Data Quality	
FOM ± Meters		Source Map Scale: 1:24,000 1:100,000	Othor
EPE ± Feet or ± Mi	eters	Ocarde Map Scale. 1.24,000 1.100,000	Otter
PDOP		± Feet or ± Met	ers
II. Discharger Facility Information (list all permi	itted discha		
TO 1 TO 114 DT ()		Rest Area / Fruitland	
Discharger Permit Number(s):	0 - 0 - 4-		
Mo	00941) (1)	
V. UAA Surveyor (please print legibly) Name of Surveyor Robert	Т.	elephone Number: (S73) 634-7078	
Name of Surveyor Organization/Employer:	Т.	Elebhone Millioer: (2213) 624- 4018	
Position: Field Manage			*
- Little was to			<u></u>
lease verify that you have completed all section	s, checked	all applicable boxes and that everything	ing is
omplete.			J



WBID#	22	12	
Site#	01		

Data Sheet B - Site Characterization

Date & Time:				Site I ocat	tion Dec	cription (e.g., road crossing):					
9 -	-1- COO F	10	~	Lust	of c	only road 439	South of				
Personnel (Data Col	lectors):	con			COUN	74 LOCF A35					
Current Weather Co.	nditions: Sunny, d		FOF F				est Are - Fruitland				
Weather Conditions	for Dord 10 done.	7.			miloci.	WO 0004051					
weamer conditions	101 1 ast 10 days.	e weil	~ sh	eel							
Drought Conditions?	?: No drought □; Phase I [□; Phase II	I ဩ; Pha	ase III 🗌	; Phase	IV □; Unknown □					
te Locations:											
	ATES (UNIVERSAL TRANSVER	RSE MERCAT	OR PROJ	IECTION, I	IN METER	RS)					
Site GPS Coordina	ates: UTM X: \6 \ \	156231	c/	Y	7.	4150909					
HORIZONTAL COLLE	CTION METHOD (Indicate the m	nethod used to		e the locat	ion data.)						
Static Mode	Global Positioning System (GPS)			Topogra	Interpolat phic Map or DRG	ion				
Dynamic Mode (Kine						notograph or DOQQ					
Precise Positioning S	Service					Imagery					
Signal Averaging					Interpola	tion Other					
Real Time Differentia											
TOTAL ACCE	GPS Data Quality	•				Interpolation Da	ta Quality				
FOM	± Meter										
EPE	±Feet or ±	7 Mete	ers		Source	Map Scale: 1:24,000 1:100,	000 Other				
PDOP					±Feet or ±Meters						
otos:											
Photo ID# (WBID_Site#_##)	Photo Purpose and I (upstream, downstream,			Photo (WBID S			se and Direction ownstream, other)				
008	downstreen To	01	I	- 00	T PAR	Upstream T					
es Observed*: (Uses actually observe	d at time	of surv	vey.)							
☐ Swimming	☐ Skin diving		SCUBA	diving		☐ Tubing	☐ Water skiing				
☐ Wind surfing	☐ Kayaking		Boating			☐ Wading	☐ Rafting				
☐ Hunting	☐ Trapping		Fishing			None of the above	☐ Other:				
Describe: (Include nu			_	ation of e	evidence	1 '	e Data Sheet D- Recreational				
rounding Cond	litions*: (Mark all that pror	mote or imped	de recreation	onal uses.	Attach pl	hotos of evidence or unusual iten	ns of interest.)				
☐ City/county parks		☐ MDC				☐ Urban areas	☐ Campgrounds				
☐ Boating accesses	☐ State parks	☐ Nation	nal forest	S	***************************************	☐ Nature trails	☐ Stairs/walkway				
☐ No trespass sign	ĭ Fence	☐ Steep	slopes			☐ None of the above	☐ Other:				
Comments:											

WBID#_	2212
Site#	1/3

Data Sheet B - Site Characterization

dications of Huma	an Use*: (at	tach photos)									
□ Roads □ R	Rope swings	☐ Foot paths/	prints 🗆 D	ock/platform	☑ Livestock	Watering	☐ RV / ATV Tracks				
☐ Camping Sites		☐ Fire pit/ring	; 🗆 N	PDES Discharge	☐ Fishing Ta	ackle	☐ Other:				
Comments:	of eath.	e in 5h	eem - h	chriz sour	ce						
ream Morphology Upstream View's F							l No				
	uu • u			n obvious curr	ent?	Yes □	No				
Select one of the fo Channel Feature	Transect (#		e from	Width (m)	Length (m)	Median D	epth (m)	Max. Depth (m)			
RIFFLE		access	5 (111)								
RUN											
POOL											
Downstream View Select one of the fo	fra production and an advantage of the second		If so, is there	water present		□ Yes □ Yes	□ No				
Channel Feature	Distance from		Width (m)	Length ((m) Med	lian Depth ((m) N	Iax. Depth (m)			
RIFFLE											
RUN	1.2										
TOOL											
ibstrate*: (These v	5 %	6 Gravel	% San		% Silt	% Mud	'Clay '	% Bedroo			
Hustic Vegetation			tion or algal	growth at the a	issessment site	÷.)					
ater Characteristi	cs*: (Mark a	all that apply.))								
ODOR:		☐ Sewage	☐ Musky	☐ Chemical	None None	☐ Oth	er:				
COLOR:		☐ Clear	☐ Green	☐ Gray	☐ Milky	∙ ⊠ Othe	er: T	Sid			
BOTTOM DEPOSIT:		☐ Sludge	☐ Solids	Fine sedime	ents 🗆 None	☐ Oth	er:				
WATER SURFACE D	DEPOSITION:	□ Oil	☐ Scum	☐ Foam	None	☐ Oth	er:				
omments: Please at This information is not comprehensive understart ecision on the recreation	to be used sole	ely for removal conditions. Co	of a recreationsequently, t	nal use designat	is not intended i	to airectly	mnuence	a			
ease verify that you	have comp	leted all secti	ons, checked	l all applicabl	e boxes and t	hat ever	ything is	complete.			
rveyor's Signature:	Rolet	D.M.) (f Survey:			-			
rganization:	13	LC	Posi	tion:	Field M	chil					

TU-007 Upshem TOI-008 downsteen

ERC Recreational Use Attainability Analysis Field Survey Sheet

	10/-4	- d ID	- p- p-			0:1!	•		041010	0:: 11:						100000	Wa	ater Qu	ality Ir	forma	iton	
		•			•) (height h		,	aditation o	and water	surface)			Dis	solved (Oxygen:	2.	35	_(mg/L)	
	Estimated Channel Incision: (meters) (height between low bank vegitation and water surface)															DO Saturation:(% sat)						
	GPS Location: 008 Transect 1 Transect 11																					
	UTM X: 165 0262319 UTM Y: 4150909 UTM X: 165 0262236UTM Y: 415073													776	Specific Cond: 564 (µS/cm)							
	Accuracy (GPS Data Quality): +/- \(\text{ (meters)}\) +/- \(\text{ (meters)}\) Water Temperature: \(\text{\texts}\) (°C)																					
	Average Stream Width: 4.0 (meters) Length of Survey Segment: 150 (meters) Date: 8-28-2007 (20x average stream width)																					
	Field	d Staff: .		T	20	Bero	<u> </u>		····		(20x ave	erage str	eam wid	th)			Time: _	9	:10			
			10000	a di		The same		7778		Trans	sect Cr	oss-Se	ection	A. 17. 17. 18	S. B. Sing		4.2.3		HISTORY.	Kalifordia (
	O Distance	1	0 Distance	2	Distance	3	0 Distance	4		5		6)7		8		9		0		11
/leasurement	(m)	Depth (m)	(m)	Depth (m)	(m)	Depth (m)	(m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	,27.	14	,42	10.	040	109	,32	15	.22	.02	.20	.28	.48	.02	.69	01.	04,	.06	:74	.21	.42	11,
3	.54	,15	,84	$\mathcal{L}o$.	08.	.04	.64	11.	,44	.05	1.00	.72	.96	10.	1.39	50.	.80	50.	84.1	, 26	19.	,19
4	18.	.14	1,24	.03	1.20	20.	, e/ (°	01.	.66	,04	1.50	.25	1.44	0	2.67	FO.	1.20	.03	5:55	.30	1.24	.16
5	1.08	80,	1.68	.02	1.60	F0.	1:58	,09	88,	.02	2.00	.22	1,92	0	2.76	.03	1.60	10,	2,96	.30	1.68	.12
6	1:35	.04	2,10	,04	200	,06	(,60	80,	1.10	.02	520	.20	2,40	,02	3.45	.05	2.00	10,	3.70	37	2.10	01.
7	1.65	.05	5.25	.05	2,40		1.92	80,	1,32	.64	3,00	//3	5.88	.62	4.14	10,	2.40	.02	4,44	,34	2.52	,09
8	1,89	80.	2.94	.05	2.80	40,	5.24	80.	1.54	.03	3.50	121	3,36	.04	4,83	. 63	5.80	10,	2.18	,36	2.94	80,
9	2.16		3.36	.03	3.20	0	5.20	.08	1.76	٠٥٦	00, Y	,56	3.84	00.	52.2	50.	3.20	50,	5.92	80.	3.36	80.
10	2.43	F'0.	8€.5	80.	3.60	0	5.88	.09	82.1	.02	4,50	<i>P</i> 1,	4.32	.02	6.21	,0ч	3.60	f'u,	61.6	90,	3,78	104
11	04.5	0	4.20	0	00. Y	0	3.50	0	5:50	0	5,00	0	4.80	0	6,90	0	4.00	0	7.40	0	4.20	0
eature Type (riffle, run, or pool)	r 0		V 0	n	Υ.	ر د	ν.ν	ght descendi		fle	. 80		Pir	the	rif	Fle	4:66	le	Ço	01	80) 'N

WBID#_	そとのてないこと	
Site#	50	

Data Sheet B - Site Characterization

Date & Time: 8 - 28	7007 1	0;23	Site Location De	scription (e.g., road crossing	(i):					
Personnel (Data Collector		0,0-	East of conty road 439 & south of county road 432 to downstream of site 1 Facility Name: MoDoT I-SS Rest Area - Fruitland							
,	D02 77	CON	Facility Name	Mary Total	asheam of like 1					
Current Weather Condition		1e~ ~905	Permit Number:	1202500 OW	2) yes - Whitese					
Weather Conditions for P	ast 10 days:	e weeth	v jheel							
Drought Conditions?: No	drought □; Phase I	□; Phase II 🗷; 1	Phase III □; Phase	e IV □; Unknown □						
1 d u										
te Locations:	UNIVERSAL TRANSVER	SE MERCATOR PR	OJECTION, IN METE	:RS)						
Site GPS Coordinates:	UTM X: 16 CO	22221	Y:	4120611						
HORIZONTAL COLLECTION	I METHOD (Indicate the m	nethod used to deter			tiethy barry					
Globa Static Mode	al Positioning System (GPS)	Topogr	Interpol aphic Map or DRG	ation					
Dynamic Mode (Kinematic)			Photograph or DOQQ						
Precise Positioning Service			Satellite	e Imagery						
Signal Averaging			Interpol	ation Other						
Real Time Differential Prod										
HORIZONTAL ACCURAC										
<u> </u>	GPS Data Quality			Interpolation D	ata Quality					
FOM ±	Meters		Source	e Map Scale: 1:24,000 1:10	0,000 Other					
	Feet or ±	Meters		±Feet or ±Meters						
PDOP										
otos:					•					
Photo ID#	Photo Purpose and I		Photo ID#		ose and Direction					
(WBID_Site#_##)	(upstream, downstream,		(WBID_Site#_##)	downstream, other)						
5000 Dow	valueum To) (I-010	Upstream -						
				0 1214600						
es Observed*: (Uses	s actually observe	d at time of su	irvey.)							
☐ Swimming	☐ Skin diving	☐ SCU.	BA diving	☐ Tubing	☐ Water skiing					
☐ Wind surfing	☐ Kayaking	☐ Boati	ng	☐ Wading	☐ Rafting					
☐ Hunting	☐ Trapping	☐ Fishi	ng	None of the above	☐ Other:					
		ing, photo-docum	entation of evidence	e of recreational uses, etc. U	Jse Data Sheet D- Recreational					
Use Interview when condu	ecting interviews.)									
rrounding Conditio	ns*: (Mark all that pror	note or impede recr	eational uses. Attach	photos of evidence or unusual it	rems of interest)					
☐ City/county parks	☐ Playgrounds	☐ MDC conse		Urban areas	☐ Campgrounds					
	☐ State parks	☐ National for		☐ Nature trails	☐ Stairs/walkway					
I Boating accesses		, : \u00000000000000000000000000000000000			- Sums want					
☐ Boating accesses		Ctean slama	7	None of the shave	Other:					
☐ No trespass sign	☑ Fence	☐ Steep slope:		☐ None of the above	☐ Other:					
☐ No trespass sign				☐ None of the above	☐ Other:					

WBID#_	2212
Site#	60

Data Sheet B - Site Characterization

	ations of Human Use*: (atta Roads □ Rope swings		nts 🔲 De	ock/platform	☐ Livestock	Watering	☐ RV / ATV Tracks				
☐ Camping Sites		☐ Fire pit/ring		PDES Discharge	☐ Fishing T	ackle	☐ Oth	er:			
Comments: Nove		<u> </u>									
None											
eam Morpholog	y:										
Upstream View's	Physical Des	criptions: Is the	ere any wa	ter present at th	nis view? 🛮	Yes [] No				
		If so	, is there a	n obvious curre	ent?	Yes \square	l No				
Select one of the fo				7111 ()	T	Median I	Denth (m)	Max. Depth (m)			
Channel Feature	Transect (#) Distance fi access (n		Vidth (m)	Length (m)	Median i	Jepin (m)	Wax. Depth (III)			
RIFFLE											
RUN											
POOL											
				and an extension of the second							
Downstream View	's Physical I	Descriptions: Is	there any	water present a	at this view?	□ Yes	□ No				
		If	so, is there	an obvious cu	rrent?	□ Yes	□ No				
Select one of the f	ollowing char	nnel features:		, , , , , , , , , , , , , , , , , , ,	- N. C.	dian Depth	(m)	Max. Depth (m)			
Channel Feature RIFFLE	Distance fron	access (m)	Width (m)	Length (1	m). 10160	лап Берш	(111)	· Max. Deput (III)			
RUN											
POOL											
and the state of t		A CONTROL OF THE PARTY OF THE P		444 C							
bstrate*: (These				1	% Silt	% Mud	I/Clav	%(\% Bedr			
% Cobble	20 %	6 Gravel	% San		% Silt	% Mud	l/Clay	80 % Bedr			
% Cobble	20 9	6 Gravel	% Sand	prowth at the as	ssessment sit	e.)		NV)			
	20 9	6 Gravel	% Sand	prowth at the as	ssessment sit	e.)		NV)			
% Cobble	20 9	unt of vegetation	% Sand	prowth at the as	ssessment sit	e.)		NV)			
% Cobble	20 9	unt of vegetation	% Sand	prowth at the as	ssessment sit	e.)	e si	N.O.			
% Cobble	20 9	unt of vegetation	% Sand	prowth at the as	ssessment sit	e.)	e si	N.O.			
% Cobble uatic Vegetation Some shick ater Characterist	20 9	unt of vegetation to grown all that apply.)	% Sand n or algal s	growth at the as	ssessment sit	e.)	e si				
watic Vegetation Some shick ater Characterist ODOR:	?: (Note amo	unt of vegetation to gown all that apply.) Gravel	% Sand n or algal § . \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	growth at the as	ssessment sit	e.)	er:	N.O.			
# Cobble uatic Vegetation Some slick ater Characterist ODOR: COLOR:	?: (Note amo	all that apply.) Sewage Clear	% Sand	Chemical	ssessment sit		ner:	N.O.			

To1 - 009 downshear TII - 010 upstream

ERC Recreational Use Attainability Analysis Field Survey Sheet

																ETECHNICAL STREET	Wa	ter Qu	ality In	formai	ton	
			nnel Inc								editation a	nd water	surface)			Diss	solved C)xygen:	0.	20	(mg/L)	
	Estimated Channel Incision: (meters) (height between low bank vegitation and water surface)															DO Saturation:(% sat)						
	GPS Location: 000 Transect 1 Transect 11													Specific Cond: 587 (µS/cm)						,		
	3240311 :YMTU <u>2215350 231 :</u> XMTU :YMTU <u>1150456 231 :</u> XMTU													456			•				ĺ	
	Average Stream Width: 6.0 (meters) Length of Survey Segment: 150 (meters) Date: 8-28-2007																					
	Field Staff:																					
	Transect Cross-Section													entra publica								
	Distance	1	0 Distance	2	0 Distance	3	0 Distance	4	0 Distance	5	0 Distance	6	0 Distance	7	0 Distance	8	0 Distance	9	1 Distance	0	1	1
leasurement		Depth (m)	(m)	Depth (m)		Depth (m)		Depth (m)	(m)	Depth (m)		Depth (m)		Depth (m)		Depth (m)		Depth (m)	(m)	Depth (m)	Distance (m)	Depth (m)
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	-62	11,	,29	,67	.85	32.	F0.	80.	.67	11,	F123	10.	.28	81.	,69,	.63	. 43	503	,27	.03	,43	.02
3	1.50	01,	. 28	.10	05,1	.17	1,34	0	1.24	81.	. 94	10.	F2.	,20	82.1	10,	.86	10.	νZ,	0	.86	.05
4	1.86	108	F8.	.09	5.22	0	10,5	ξO,	10,5	,20	1.41.	0	18.	, 19	70.5	. OZ	1.29	.02	18.	0	1.29	,06
5	5,48	,09	1.16	,08	3.40	80.	2.68	80.	5.68	15.	88.1	.02	1.14	.20	5.36	10,	1.72	.02	1.08	F0,	55.1	80.
6	3.10	0	1.45		4.25	.26	3,35	1,2€	3.32		5.32				3.45	50.	2,15	20.	1.35	01.	5.15	80.
7	3.72	0	1.74	" -	2.10	724	H'as		4.02		5.85				4.14	10.	82.5		1.65	.09	5.50	٠١١,
8	4.34	.01	5.03		2,95		4.69		PJ. P	1 - 0	3.29					10.	10.5	- 4	1.89	£0,		<u> </u>
9	5- 50		4,000		6.80		5,36		2.36		3,76				2.25		3.44		2.16	50.	3.44	
10		10.1	2.61	.03	2.65		(20, 2)		(30,0)		11.50				15.0		7.87		5.43	.01	7.87	

Notes: Transects will be measured beginning on left descending bank and finishing on right descending bank and in order of up to drowstream.

1009

Feature Type (riffle

run, or pool

riffle

riffle

fun

riffle

Note: Site located in dense State - thick ripianian zone

rille

WBID#_	2212
Site#	03

Data Sheet B - Site Characterization

Date & Time: V 7 V	-2007 13) ! m :	Site Lo	cation Des	cription (e.g., road crossing)	:				
Personnel (Data Collectors)	5:5	7:00	- East of county rock 439 & south of county road 43							
Personnel (Data Collectors)	Day Da	C0>	Counstream of site 2 offerm of small tribut Facility Name: MORT I-IT Rest Area - Freitland							
Current Weather Conditions	s: Sunny clea	, hot		Number:		Area - treatland				
Weather Conditions for Pas	. 10 1	- wech								
Drought Conditions?: No d					IV □; Unknown □					
		,								
te Locations: Location coordinates (U	NIVERSAIS TRANSVERSI	E MERCATOR PI	RO IECTIO	N IN METER	36)·					
Site GPS Coordinates: U		262076			41203CA					
HORIZONTAL COLLECTION N	, 9 ~ 0				The state of the s					
Global	Positioning System (GF				Interpola					
Static Mode Dynamic Mode (Kinematic)					phic Map or DRG notograph or DOQQ					
Precise Positioning Service				Satellite						
Signal Averaging				Interpola	tion Other					
Real Time Differential Proce	ssing				TO THE RESIDENCE OF THE PARTY O	4				
HORIZONTAL ACCURACY						State of the state				
	GPS Data Quality				Interpolation Da	ata Quality				
FOM ±	Meters			Source	Map Scale: 1:24,000 1:100	,000 Other				
EPE ±	Feet or ±	} _Meters			± Feet or ±	Meters				
PDOP						weters				
otos:	•	•								
	Photo Purpose and Dir	rection	Ph	hoto ID# Photo Purpose and Direction						
(WBID_Site#_##)	(upstream, downstream, otl	her)	(WBI	VBID_Site#_##) (upstream, downstream, other)						
- 011 T	11 - Upsh	lam.	<i>I</i> -(5/12	TO (00	oursheim				
es Observed*: (Uses a	actually observed	at time of s	urvey.)							
☐ Swimming	☐ Skin diving	□ scu	BA divin	g	☐ Tubing	☐ Water skiing				
☐ Wind surfing	☐ Kayaking	☐ Boat	ting		☐ Wading	☐ Rafting				
☐ Hunting	☐ Trapping	☐ Fish:	ing	⊠ None of the above ☐ Other:						
Describe: (Include number of Use Interview when conduct		g, photo-docum	nentation (of evidence	e of recreational uses, etc. U	se Data Sheet D- Recreational				
rrounding Condition	S*: (Mark all that promo	ote or impede rec	reational us	ses. Attach p	hotos of evidence or unusual ite	ems of interest.)				
☐ City/county parks	☐ Playgrounds	☐ MDC conse	rvation lands		☐ Urban areas	☐ Campgrounds				
☐ Boating accesses	☐ State parks	☐ National fo	rests		☐ Nature trails	☐ Stairs/walkway				
☐ No trespass sign	Fence	☐ Steep slope	es		☐ None of the above	☐ Other:				
Comments: Pasture	and woods				,					

WBID# ZZ\Z Site# 03

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

□ Roads □	Rope swings	☐ Foot paths/pri	ints D	ock/platform	Livestock	Watering	☐ RV / ATV Tracks			
☐ Camping Sites		☐ Fire pit/ring		PDES Discharge	☐ Fishing Tackle		☐ Other:			
Comments: Now										
Now										
eam Morpholog							> T			
Upstream View's	Physical Des						□No			
			o, is there a	n obvious curre	ent?	Yes 🗆] No			
Select one of the f	Ollowing char Transect (#	nnel features: Distance f	from V	Vidth (m)	Length (m)	Median I	Depth (m)	Depth (m) Max. Depth (m)		
Channel Feature	Transcet (#	access (1	1	, ram (m)						
RIFFLE										
RUN										
POOL										
			a those one	vioter precent	at this view?	ΠYes	□ No			
Downstream Viev	v's Physical I						□ No			
		English.	so, is there	an obvious cu	rrent?	□ Yes				
~ "	allowing oho	mmal faatuures.						a company		
	Distance from	n access (m)	Width (m)	Length (m) Me	dian Depth	ı (m)	Max. Depth (m)		
Channel Feature RIFFLE	Distance from	n access (m)	Width (m)	Length (m) Me	dian Depth	ı (m)	Max. Depth (m)		
	Distance from	n access (m)	Width (m)	Length (m) Me	edian Depth	ı (m)	Max, Depth (m)		
Channel Feature RIFFLE	Distance from	n access (m)	Width (m)	Length (m) Me	dian Depth	ı (m)	Max. Depth (m)		
Channel Feature RIFFLE RUN POOL	Distance from	n access (m)		Length (m) Me	dian Depth	ı (m)	Max. Depth (m)		
Channel Feature RIFFLE RUN POOL bstrate*: (These	values should	n access (m)			m) Me	odian Depth				
Channel Feature RIFFLE RUN POOL bstrate*: (These	values should	access (m) l add up to 100% Gravel	%.) % San	d	% Silt	% Muc				
Channel Feature RIFFLE RUN POOL bstrate*: (These	values should	access (m) l add up to 100% Gravel	%.) % San	d	% Silt	% Muc				
Channel Feature RIFFLE RUN POOL bstrate*: (These	values should	access (m) l add up to 100% Gravel	%.) % San	d	% Silt	% Muc				
Channel Feature RIFFLE RUN POOL bstrate*: (These % Cobble uatic Vegetation	values should values should (Note amo	add up to 100% Gravel	%.) % San	d	% Silt	% Muc				
Channel Feature RIFFLE RUN POOL bstrate*: (These % Cobble uatic Vegetation atter Characteris	values should values should (Note amo	all that apply.)	%.) % San on or algal;	d growth at the a	% Silt	% Mud	d/Clay			
Channel Feature RIFFLE RUN POOL bstrate*: (These % Cobble uatic Vegetation atter Characteris ODOR:	values should values should (Note amo	all that apply.)	%.) % San on or algal;	d growth at the a	% Silt ssessment sit	% Mudte.)	d/Clay			
Channel Feature RIFFLE RUN POOL bstrate*: (These % Cobble uatic Vegetation ter Characteris	values should values should (Note amo	all that apply.)	%.) % San on or algal;	crowth at the a	% Silt ssessment sin	% Mudete.)	d/Clay her:			
Channel Feature RIFFLE RUN POOL bstrate*: (These % Cobble uatic Vegetation atter Characteris ODOR:	values should values should (Note amount tics*: (Mark	all that apply.)	%.) % San on or algal;	d growth at the a	% Silt ssessment sin	% Mudete.)	d/Clay her:			
Channel Feature RIFFLE RUN POOL bstrate*: (These % Cobble uatic Vegetation atter Characteris ODOR: COLOR:	values should va	all that apply.) Sewage	%.) % San on or algal; Musky Green	crowth at the a	% Silt ssessment sin	% Mudete.) e □ Otte e घ Otte	d/Clay her:			

TII OII Upstream TOI OIZ Downsteam

ERC Recreational Use Attainability Analysis Field Survey Sheet

	Waterbody ID: 77 \ Sito #: (\) (MRID Sito#)													Water Quality Informaiton									
	Waterbody ID: Site #: (WBID Site#) Estimated Channel Incision: (meters) (height between low bank vegitation and water surface)													Dissolved Oxygen: 7,52 (mg/L)									
															DO Saturation: <u> </u>								
	GPS Location: O 12 Transect 1 Transect 11 UTMY: 14 Septiment 11													. ~ V	Specific Cond: SS (uS/cm)								
	UTM X: \(\)\(\)\(\)\(\)\(\)\(\)\(\)\(دح	Water Temperature: 22.78 (°C)							
															neters)	\$ 50 000							
	Field Staff:															Time:							
		Marie and	A of The	Tripule.		1 1 1			(5-46-4) a	Trans	sect Cr	oss-Se	ection	Min Control		of Armer	10分子。 10分子。		J. E. K.				
		01 02 03 04 05 06 07											_	8	09			0	11				
Measurement	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\circ	0	0	0	
2	80.	.26	99.	,06	.73	20,	18.	, 11	10.1	P0.	P8.	.05	00,	.04	80.	,21	.84	ૃંલ	.72	oi,	.45	30.	
3	1.36	.28	1,35	.08	34.1	80.	1.62	,04	5.05	0	1.68	.05	1,20	. 13	1.36	.19	80,1	,24	1.44	,12	,90	01.	
4	204	.16	1.98	90.	2.19	.06	2,43	.03	80,5	.03	2.52	.08	08,1	.28	2,04	.65	2.52	.22	2.16	80.	1.35	.10	
5	2,72	,14	2.64	11,	2,92	.23.	3.24	50.	4.04	O	3.36	,09	2,40	.23.	2.72	20.	3.36	. 22	2.88	.13	08.1	E0.	
6	3.40	80.	3.30	.19	3.62	.25	4.05	80,	5.05	0	4.20	14	3.00	0	3.40	.05	4.20	80.	3.60	80.	2:25	.O3	
7	4,08	FO,	3.96	, 29	4.38	.23	4.86	.03	6,06		5.04	.11	360	0	80.4	* 03	5.04	, O4	4.32	100.	2,70	80.	
8	4,76	01.	4.85	:26	2.11	0	5.67	١٥.	FO, F	.08	5.88	F0.	4.20	0	4,76	10.	2.88	20,	5.04	,22	3.15	.06	
9	5.44	-17	2.58	P),	2.84	15	6.48	.13	8.08	» \ \	6.72	80,	4.80	١٥,	5.44	,04	6.72	.18	2:36	.37	3.60	06	
10		.14	5.94	.02	6.57	<u> </u>	7.50	10.	0.09	.12	7.50	.24	5.40	.06	6.12	.03	7.56	,31	84,9	١١,	4.05	.09	
11 Feature Type (riffle,	6.80	0	6.60	0	J'30	0	8.10	0	10.10	0	8,40	0	6.00	0	6.80	0	8.40	0	7,20	0	4.50	0	
run, or pool)) \\	10		80		40		Pair		40		Sm (21000	402	`	40	<u>~</u>	Y0	~	80	_	
NOTES:	rransects v	viii de meas	urea beginn	ling on left d	iescending l	bank and fin	isning on rig	gnt descend	ıng bank an	d in order o	t up to drow	stream.											

- splash -

Signed: Wall Baco

Date: 8-21-2007

WBID# 2212



Site# 1 Photo ID# I-008, Downstream



Site# 2 Photo ID# I-009, Downstream



Site# 1 Photo ID# I-007, Upstream



Site# 2 Photo ID# I-010, Upstream

WBID# 2212



Site# 3 Photo ID# I-011, Upstream



Site#3 Photo ID# I-012, Downstream